



NIAGARA MOHAWK

GENERATION
BUSINESS GROUP

NINE MILE POINT NUCLEAR STATION/LAKE ROAD, P.O. BOX 63, LYCOMING, NEW YORK 13093

October 2, 1998
NMP1L 1365

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

RE: Docket No. 50-220
LER 98-17

Gentlemen:

In accordance with 10CFR50.73(a)(2)(i) and 10CFR50.73(a)(2)(v), we are submitting LER 98-17, "Breach of Primary Containment Due to Personnel Error in 1994."

Very truly yours,

Robert G. Smith
Plant Manager - NMP1

RGS/GJG/sc

xc: Mr. H. J. Miller, Regional Administrator
Mr. B. S. Norris, Senior Resident Inspector
Records Management

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PDR ADOCK 05000220
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LICENSEE EVENT REPORT (LER)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503

FACILITY NAME (1)

Nine Mile Point Unit 1

DOCKET NUMBER (2)

05000220

PAGE (3)

1 OF 4

TITLE (4)

Breach of Primary Containment Due to Personnel Error in 1994

| EVENT DATE (5) | | | LER NUMBER (6) | | | | REPORT DATE(7) | | | OTHER FACILITIES INVOLVED (8) | |
|----------------|-----|------|----------------|-------------------|-----------------|-------|----------------|------|----------------|-------------------------------|--|
| MONTH | DAY | YEAR | YEAR | SEQUENTIAL NUMBER | REVISION NUMBER | MONTH | DAY | YEAR | FACILITY NAMES | DOCKET NUMBER(5) | |
| 09 | 02 | 98 | 98 | 017 | 00 | 10 | 02 | 98 | N/A | | |
| | | | | | | | | | N/A | | |

OPERATING MODE (9)

1

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)

| | | | | |
|-------------------------|---|--|--|---|
| POWER LEVEL (10) 100 | <input type="checkbox"/> 20.2201(b) | <input type="checkbox"/> 20.2203(a)(2)(v) | <input checked="" type="checkbox"/> 50.73(a)(2)(i) | <input type="checkbox"/> 50.73(a)(2)(viii) |
| | <input type="checkbox"/> 20.2203(a)(1) | <input type="checkbox"/> 20.2203(a)(3)(i) | <input type="checkbox"/> 50.73(a)(2)(ii) | <input type="checkbox"/> 50.73(a)(2)(x) |
| | <input type="checkbox"/> 20.2203(a)(2)(i) | <input type="checkbox"/> 20.2203(a)(3)(ii) | <input type="checkbox"/> 50.73(a)(2)(iii) | <input type="checkbox"/> 73.71 |
| | <input type="checkbox"/> 20.2203(a)(2)(ii) | <input type="checkbox"/> 20.2203(a)(4) | <input type="checkbox"/> 50.73(a)(2)(iv) | <input type="checkbox"/> OTHER |
| | <input type="checkbox"/> 20.2203(a)(2)(iii) | <input type="checkbox"/> 50.36(c)(1) | <input checked="" type="checkbox"/> 50.73(a)(2)(v) | <i>(Specify in Abstract below and in Text, NRC Form 366A)</i> |
| | <input type="checkbox"/> 20.2203(a)(2)(iv) | <input type="checkbox"/> 50.36(c)(2) | <input type="checkbox"/> 50.73(a)(2)(vii) | |

LICENSEE CONTACT FOR THIS LER (12)

NAME

Dave Topley - Manager Operations

TELEPHONE NUMBER

(315) 349-1752

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

| CAUSE | SYSTEM | COMPONENT | MANUFACTURER | REPORTABLE TO EPIX | CAUSE | SYSTEM | COMPONENT | MANUFACTURER | REPORTABLE TO EPIX |
|-------|--------|-----------|--------------|--------------------|-------|--------|-----------|--------------|--------------------|
| | | | | | | | | | |

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE)

NO

EXPECTED SUBMISSION DATE (15)

MONTH DAY YEAR

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single space typewritten lines) (16)

During the development of Nine Mile Point Unit 1 (NMP1) LER 98-15, "Breach of Primary Containment Due to Personnel Error," Operations personnel discovered that a previous similar event had occurred on December 20, 1994. At the time, the operations staff determined that the event was not reportable. On September 2, 1998, Niagara Mohawk Power Corporation (NMPC) concluded that the reportability determination made in 1994 was incorrect, and that the event should have been reported.

The cause of the breach on December 20, 1994 was inadequate work planning in that personnel who planned maintenance work on the Containment Spray System focused on personnel protection and failed to recognize the unique primary to secondary containment leakage path that would be established during the maintenance activity. The cause of not reporting the event was that the NMP1 Technical Specifications were not applied correctly, due to a knowledge deficiency.

Corrective actions contained in LER 98-15 will resolve the deficiencies associated with this LER. In addition, based upon the additional cause of not reporting the event in 1994, appropriate personnel will be coached.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

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| | | YEAR | SEQUENTIAL NUMBER | REVISION NUMBER | |
| | | 98 | - 17 | - 00 | |

TEXT (If more space is required, use additional NRC Form 366A's) (17)

I. DESCRIPTION OF EVENT

On December 20, 1994, a tagout was placed on the Nine Mile Point Unit 1 (NMP1) Containment Spray (CS) System and work was commenced on CS Air Operated Valve (AOV) 80-40. At approximately 0900 hours, maintenance personnel observed water leaking from the valve flange. They immediately stopped work and notified the Chief Shift Operator (CSO) who dispatched a Reactor Operator (RO). Investigation by the RO and System Engineer revealed that CS Heat Exchanger vent valves (80-182 and 80-178) were open, and that the resultant lineup created a vent path from the torus to the secondary containment via the CS heat exchanger. Shift management recognized that the lineup created a breach of primary containment, and at approximately 0906 hours, directed the RO to close valves 80-182 and 80-178. The tagout was revised to include 80-182 and 80-187, and the work was completed.

The Assistant Station Shift Supervisor (ASSS) reviewed Technical Specifications (TS) and concluded that TS 3.3.4, Primary Containment Isolation Valve action b applied to the breach. TS 3.3.4 action b states "In the event any isolation valve becomes inoperable the system shall be considered operable provided that within 4 hours at least one valve in each line having an inoperable valve is in the mode corresponding to the isolated condition." Since the breach condition was eliminated in less than one hour, the ASSS considered the condition to be resolved within the allowed Limiting Condition for Operation (LCO).

The Station Shift Supervisor (SSS), Operations management, and Station Operations Review Committee (SORC) reviews did not identify that TS 3.3.0, Primary Containment and TS 3.3.3, Leakage Rate applied to the breach. At the time, operations management knew that when the heat exchanger vent valves were closed, primary containment was reestablished. Therefore, it appeared logical to apply the actions of TS 3.3.4, Primary Containment Isolation Valves. Because entries into the applicable TSs were not identified, entry into TS 3.0.1 was not made.

During the investigation for NMP1 LER 98-15, "Breach of Primary Containment Due to Personnel Error," the Deviation Event Report (DER) for the December 20, 1994 event was reviewed. During that review, it became evident that both events were similar, and that the reportability determination for the 1994 event was erroneous.

II. CAUSE OF EVENT

The cause of the breach on December 20, 1994 was inadequate work planning in that personnel who planned the work on the Containment Spray System focused on personnel protection and failed to recognize the unique primary to secondary containment leakage path that would be established during the maintenance activity.

The root cause of not reporting the event in 1994 was that the NMP1 TSs were not applied or followed correctly due to a knowledge deficiency. When the breach was created, the station staff should have recognized that the station was not in compliance with TS 3.3.0 or 3.3.3 and since there were no action statements, entry into TS 3.0.1 was required. Entry into TS 3.0.1 is reportable under the guidelines in NUREG-1022 since TS 3.0.1 is equivalent to STS 3.0.3.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATIONESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION
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TEXT (If more space is required, use additional NRC Form 366A's) (17)

III. ANALYSIS OF EVENT

This event is reportable in accordance with 10CFR50.73(a)(2)(i)(B), "any operation or condition prohibited by the plant's Technical Specifications" and 10CFR50.73(a)(2)(v), "any event or condition that alone could have prevented the fulfillment of the safety function of structures or systems that are needed to: C) Control the release of radioactive material."

A leakage path analysis which was performed for LER 98-15 applies to, and bounds the leakage path that was present in 1994. The analyzed leakage path was a one-inch line from the Torus, through a one-quarter inch flow orifice, through a three quarter inch globe valve (two in parallel), through the high point vents of the heat exchanger to the pump discharge strainer vents and drains into the secondary containment (instead of the strainer vents and drains, the loosened valve bonnet on AOV 80-40 was the path into secondary containment in 1994). An engineering evaluation has determined that this leakage path resulted in an additional primary containment leakage of 3.6 times the 1.5 percent per day leakage rate allowed by TS 3.3.3.a. Given this additional leakage, the Updated Final Safety Analysis Report (UFSAR) doses for a Design Basis Accident remain within the 10CFR100 limits (UFSAR Rev. 15 Section XV 5.2). A review of control room operator doses from an NMPC letter to the NRC, dated March 19, 1984 lists a dose of 9.68 Rem thyroid, 0.077 Rem gamma (whole body), and 0.841 Rem beta (skin) due to containment leakage. Increasing this dose contribution due to containment leakage by a factor of 3.6 results in exceeding GDC-19 limits for the thyroid. Whole body and skin dose remain less than 5 Rem and 30 Rem, respectively. However, the control room operators would take Potassium Iodide (KI) per the NMPC Emergency Plan, which would eliminate the thyroid dose as a concern.

The preceding analysis assumed a constant flow rate through the leakage path at the peak containment pressure of 35 psig. However, due to the configuration of the high point vent piping, initiation of the CS System would have effectively provided a water seal. The four containment spray vent lines join at a common header which connect to the torus. Therefore, when any of the pumps would have started, flow from the system, at 125 psig, would have overcome the containment pressure, thus blocking gaseous releases. For this accident scenario, approximately 2 gpm leakage would have been experienced from the open valve flange. This reduction in containment leakage would have reduced the source term discharged into secondary containment.

Finally, containment pressure within hours of the DBA initiation would have been well below 35 psig. Therefore, a more realistic analysis would show that the dose consequences of a DBA with this opening would have been below the GDC-19 limits even without a water seal.

Based upon the preceding, this event did not pose a threat to the health and safety of the public or plant personnel.

**LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION**

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TEXT (If more space is required, use additional NRC Form 366A's) (17)

IV. CORRECTIVE ACTIONS

1. Immediately upon discovery, the ASSS directed that the CS heat exchanger vent valves be closed.
2. Senior Reactor Operators and members of the SORC will be coached on the application of TS 3.0.1 and the reporting requirements upon entry into that TS by October 30, 1998.
3. The SSS Qualification Manual shall be revised to incorporate a review and discussion on the use of TS 3.0.1 and reportability requirements by October 23, 1998.
4. Corrective actions contained in LER 98-15 directly apply to this event. Therefore, no additional corrective actions are warranted.

V. ADDITIONAL INFORMATION

- A. Failed components: none.
- B. Previous similar events: none.
- C. Identification of components referred to in this LER:

| COMPONENT | IEEE 803 FUNCTION | IEEE 805 SYSTEM ID |
|----------------------------|-------------------|--------------------|
| Containment Spray System | N/A | BO |
| Vent Valves 80-182, 80-178 | VTV | BO |
| AOV 80-40 | V | BO |